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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/742,911	12/23/2003	Hee Jung Hong	8734.282.00 US	7164
30827	7590	11/28/2006	EXAMINER	
MCKENNA LONG & ALDRIDGE LLP 1900 K STREET, NW WASHINGTON, DC 20006			BRIGGS, NATHANAEL R	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 11/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/742,911

Applicant(s)

HONG ET AL.

Examiner

Nathanael Briggs

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 8/8/2006.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "wherein the signal applying lines of the lower surface of the flexible printed cable are disposed on the upper surface of the flexible printed cable" seems to recite contradictory and confusing language, and therefore full understanding of the claim is impossible. For the purposes of examination, Examiner interprets the claim to read "wherein the signal applying lines of the lower surface of the flexible printed cable are disposed on the *lower* surface of the flexible printed cable"

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muramatsu (US 6,191,838) in view of Tsuyuki et al. (US 6,853,361).**

6. Regarding claims 1 and 9, Muramatsu discloses a touch panel LCD having a driver IC (see figures 1 and 2, for instance), having: upper (52a) and lower (52b) substrates; first and second transparent electrodes on opposing surfaces of the upper (52a) and lower (52b) substrates; a plurality of metal electrodes (53-1) in a circumference of the first and second transparent electrodes; and a flexible wiring board (25) having a plurality of signal applying lines (22-2) extended from the upper (52a) and lower (52b) substrates to a rear side of the display device (1) for applying signal voltages to the metal electrodes (53-1), wherein the flexible wiring board (25) is bent at a corner of the upper (52a) and lower (52b) substrates from a top to a bottom of the display device (1), and has a first part (25) extended from the corner (53) of the display device (1) and a second part (20) extended from the first part (25) and the first (25) and second (20) parts being perpendicular to each other. However, Muramatsu does not expressly disclose wherein a flexible printed cable is used to transmit signals from the IC drive to the display electrodes.

7. Regarding claims 1 and 9, Tsuyuki discloses a touch-screen LCD (see figure 2, for instance), wherein a flexible printed cable (150; column 6, lines 16-22) is used to transmit signals from the IC driver circuit (400, 500) to the display panel (110).

8. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the flexible printed cable of Tsuyuki in the LCD of Muramatsu. The motivation for doing so would have been to use equivalent technologies in the art to produce a liquid crystal display panel incorporating high-density wiring while maintaining

Art Unit: 2871

high reliability of the wiring, as taught by Tsuyuki (column 2, lines 1-4; column 6, lines 16-30). Claims 1 and 9 are therefore unpatentable.

9. Regarding claims 2 and 10, Muramatsu in view of Tsuyuki discloses the touch panel of claim 1 (see figures 1 and 2, for instance), and Muramatsu further discloses wherein the flexible printed cable (20) has a plurality of through-holes (26) before the flexible printed cable (20) overlaps the driver IC. Claims 2 and 10 are therefore unpatentable.

10. Regarding claims 3 and 11, Muramatsu in view of Tsuyuki discloses the touch panel of claim 1 (see figures 1 and 2, for instance), and Muramatsu further discloses wherein the signal applying lines of the lower surface of the flexible printed cable (20) are disposed on the upper surface of the flexible printed cable (20). Claim 3 and 11 are therefore unpatentable.

11. Regarding claims 4 and 12, Muramatsu in view of Tsuyuki discloses the touch panel of claim 1 (see figures 1 and 2, for instance), and Muramatsu further discloses wherein the flexible printed cable (20) extends through the driver IC of the display device (1) to be connected to a printed circuit board (10). Claims 4 and 12 are therefore unpatentable.

12. Regarding claims 5 and 13, Muramatsu in view of Tsuyuki discloses the touch panel of claims 3 and 11 (see figures 1 and 2, for instance), and Muramatsu further discloses wherein the signal applying lines (22-2) for applying signals to the metal electrodes (53-1) on the upper substrate (52a) are printed on the upper surface of the flexible printed cable (25), and the signal applying lines (22-2) for applying signals to the

metal electrodes (53-1) on the lower substrate (52b) are printed on the lower surface of the flexible printed cable (20). Claims 5 and 13 are therefore unpatentable.

13. Regarding claims 6 and 14, Muramatsu in view of Tsuyuki discloses the touch panel of claims 1 and 9 (see figures 1 and 2, for instance), and Muramatsu further discloses wherein the metal electrodes (53-1) include: first and second metal electrodes being electrically connected to the first transparent electrode (52a) in the circumference of the first transparent electrode (52a) along the X-axis direction, and third and fourth metal electrodes being electrically connected to the second transparent electrode (52b) in the circumference of the upper and lower sides on the second transparent electrode (52b) along the Y-axis direction. Claims 6 and 14 are therefore unpatentable.

14. Regarding claims 7 and 15, Muramatsu in view of Tsuyuki discloses the touch panel of claims 6 and 14 (see figures 1 and 2, for instance), and Muramatsu further discloses wherein the first, second, third, and fourth metal electrodes (53-1) are connected to the first, second, third, and fourth signal applying lines (22-2). Claims 7 and 15 are therefore unpatentable.

15. Regarding claim 8 and 16, Muramatsu in view of Tsuyuki discloses the touch panel of claims 1 and 9 (see figures 1 and 2, for instance), and Muramatsu further discloses wherein the display device is a liquid crystal display device (1). Claims 8 and 16 are therefore unpatentable.

**16. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakanishi et al. (US 6,590,622) in view of Tsuyuki et al. (US 6,853,361).**

Art Unit: 2871

17. Regarding claims 1 and 9, Nakanishi discloses a touch panel LCD having a driver IC (see figures 1 and 6, for instance), having: upper (17) and lower (11) substrates; first (18) and second (14) transparent electrodes on opposing surfaces of the upper (17) and lower (11) substrates; a plurality of metal electrodes (21) in a circumference of the first (18) and second (14) transparent electrodes; and a flexible wiring board (20) having a plurality of signal applying lines (20A) extended from the upper (17) and lower (11) substrates to a rear side of the display device for applying signal voltages to the metal electrodes (21), wherein the flexible printed cable (20) is bent at a corner of the upper (17) and lower (11) substrates from a top to a bottom of the display device, and has a first part (47) extended from the corner (41) of the display device (43) and a second part (48) extended from the first part (47) and the first (47) and second (48) parts being perpendicular to each other. However, Nakanishi does not expressly disclose wherein a flexible printed cable is used to transmit signals from the IC drive to the display electrodes.

18. Regarding claims 1 and 9, Tsuyuki discloses a touch-screen LCD (see figure 2, for instance), wherein a flexible printed cable (150; column 6, lines 16-22) is used to transmit signals from the IC driver circuit (400, 500) to the display panel (110).

19. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the flexible printed cable of Tsuyuki in the LCD of Nakanishi. The motivation for doing so would have been to use equivalent technologies in the art to produce a liquid crystal display panel incorporating high-density wiring while maintaining

Art Unit: 2871

high reliability of the wiring, as taught by Tsuyuki (column 2, lines 1-4; column 6, lines 16-30). Claims 1 and 9 are therefore unpatentable.

20. Regarding claims 2 and 10, Nakanishi in view of Tsuyuki discloses the touch panel of claim 1 (see Nakanishi figures 1 and 6, for instance), and Nakanishi further discloses wherein the flexible printed cable (20) has a plurality of through-holes before the flexible printed cable (20) overlaps the driver IC (44). Claims 2 and 10 are therefore unpatentable.

21. Regarding claims 3 and 11, Nakanishi in view of Tsuyuki discloses the touch panel of claim 1 (see figures 1 and 6, for instance), and Nakanishi further discloses wherein the signal applying lines of the lower surface of the flexible printed cable (20) are disposed on the upper surface of the flexible printed cable (20). Claim 3 and 11 are therefore unpatentable.

22. Regarding claims 4 and 12, Nakanishi in view of Tsuyuki discloses the touch panel of claim 1 (see figures 1 and 6, for instance), and Nakanishi further discloses wherein the flexible printed cable (20) extends through the driver IC (44) of the display device (42) to be connected to a printed circuit board (44). Claims 4 and 12 are therefore unpatentable.

23. Regarding claims 5 and 13, Nakanishi in view of Tsuyuki discloses the touch panel of claims 3 and 11 (see figures 1 and 6, for instance), and Nakanishi further discloses wherein the signal applying lines (20A) for applying signals to the metal electrodes (21) on the upper substrate (17) are printed on the upper surface of the flexible printed cable (20), and the signal applying lines (20A) for applying signals to the



metal electrodes (21) on the lower substrate (14) are printed on the lower surface of the flexible printed cable (20). Claims 5 and 13 are therefore unpatentable.

24. Regarding claims 6 and 14, Nakanishi in view of Tsuyuki discloses the touch panel of claims 1 and 9 (see figures 1 and 6, for instance), and Nakanishi further discloses wherein the metal electrodes (21) include: first and second metal electrodes being electrically connected to the first transparent electrode (14) in the circumference of the first transparent electrode (14) along the X-axis direction, and third and fourth metal electrodes (16) being electrically connected to the second transparent electrode (18) in the circumference of the upper and lower sides on the second transparent electrode (18) along the Y-axis direction. Claims 6 and 14 are therefore unpatentable.

25. Regarding claims 7 and 15, Nakanishi in view of Tsuyuki discloses the touch panel of claims 6 and 14 (see figures 1 and 6, for instance), and Nakanishi further discloses wherein the first, second, third, and fourth metal electrodes (21) are connected to the first, second, third, and fourth signal applying lines (20A). Claims 7 and 15 are therefore unpatentable.

26. Regarding claim 8 and 16, Nakanishi in view of Tsuyuki discloses the touch panel of claims 1 and 9 (see figures 1 and 6, for instance), and Nakanishi further discloses wherein the display device is a liquid crystal display device. Claims 8 and 16 are therefore unpatentable.

**27. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto et al. (US 6,529,179) in view of Tsuyuki et al. (US 6,853,361).**

Art Unit: 2871

28. Regarding claims 1 and 9, Hashimoto discloses a touch panel LCD having a driver IC (see figures 4-7, for instance), having: upper and lower substrates; first (400) and second (200) transparent electrodes on opposing surfaces of the upper (400) and lower (200) substrates; a plurality of metal electrodes (STV; 251, 253) in a circumference of the first (400) and second (200) transparent electrodes; and a flexible wiring board (950) having a plurality of signal applying lines (STV) extended from the upper and lower substrates to a rear side of the display device (100) for applying signal voltages to the metal electrodes (STV), wherein the flexible printed cable (950) is bent at a corner of the upper and lower (200) substrates from a top to a bottom of the display device, and has a first part extended from the corner of the display device (100) and a second part extended from the first part and the first and second parts being perpendicular to each other. However, Hashimoto does not expressly disclose wherein a flexible printed cable is used to transmit signals from the IC drive to the display electrodes.

29. Regarding claims 1 and 9, Tsuyuki discloses a touch-screen LCD (see figure 2, for instance), wherein a flexible printed cable (150; column 6, lines 16-22) is used to transmit signals from the IC driver circuit (400, 500) to the display panel (110).

30. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the flexible printed cable of Tsuyuki in the LCD of Hashimoto. The motivation for doing so would have been to use equivalent technologies in the art to produce a liquid crystal display panel incorporating high-density wiring while maintaining

Art Unit: 2871

high reliability of the wiring, as taught by Tsuyuki (column 2, lines 1-4; column 6, lines 16-30). Claims 1 and 9 are therefore unpatentable.

31. Regarding claims 2 and 10, Hashimoto in view of Tsuyuki discloses the touch panel of claim 1 (see Hashimoto figures 4-7, for instance), and Hashimoto further discloses wherein the flexible printed cable (950) has a plurality of through-holes (581, 583, 585, 587) before the flexible printed cable (950) overlaps the driver IC (500). Claims 2 and 10 are therefore unpatentable.

32. Regarding claims 3 and 11, Hashimoto in view of Tsuyuki discloses the touch panel of claim 1 (see figures 4-7, for instance), and Hashimoto further discloses wherein the signal applying lines of the lower surface of the flexible printed cable (950) are disposed on the upper surface of the flexible printed cable (950). Claim 3 and 11 are therefore unpatentable.

33. Regarding claims 4 and 12, Hashimoto in view of Tsuyuki discloses the touch panel of claim 1 (see figures 4-7, for instance), and Hashimoto further discloses wherein the flexible printed cable (950) extends through the driver IC (500) of the display device (100) to be connected to a printed circuit board (500). Claims 4 and 12 are therefore unpatentable.

34. Regarding claims 5 and 13, Hashimoto in view of Tsuyuki discloses the touch panel of claims 3 and 11 (see figures 4-7, for instance), and Hashimoto further discloses wherein the signal applying lines (STV) for applying signals to the metal electrodes (251, 253) on the upper substrate (400) are printed on the upper surface of the flexible printed cable (950), and the signal applying lines (STV) for applying signals to the metal

electrodes (251, 253) on the lower substrate (200) are printed on the lower surface of the flexible printed cable (950). Claims 5 and 13 are therefore unpatentable.

35. Regarding claims 6 and 14, Hashimoto in view of Tsuyuki discloses the touch panel of claims 1 and 9 (see figures 4-7, for instance), and Hashimoto further discloses wherein the metal electrodes (251, 253) include: first and second metal electrodes being electrically connected to the first transparent electrode (400) in the circumference of the first transparent electrode (400) along the X-axis direction, and third and fourth metal electrodes (251, 253) being electrically connected to the second transparent electrode (200) in the circumference of the upper and lower sides on the second transparent electrode (200) along the Y-axis direction. Claims 6 and 14 are therefore unpatentable.

36. Regarding claims 7 and 15, Hashimoto in view of Tsuyuki discloses the touch panel of claims 6 and 14 (see figures 4-7, for instance), and Hashimoto further discloses wherein the first, second, third, and fourth metal electrodes (251, 253) are connected to the first, second, third, and fourth signal applying lines (STV). Claims 7 and 15 are therefore unpatentable.

37. Regarding claim 8 and 16, Hashimoto in view of Tsuyuki discloses the touch panel of claims 1 and 9 (see figures 4-7, for instance), and Hashimoto further discloses wherein the display device is a liquid crystal display device. Claims 8 and 16 are therefore unpatentable.

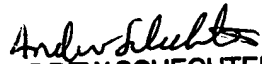
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathanael Briggs whose telephone number is (571) 272-8992. The examiner can normally be reached on 8:30 AM to 5:00 PM (EST) Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nathanael Briggs  
11/21/2006

  
ANDREW SCHECHTER  
PRIMARY EXAMINER